Work Order ID 108944 October-30-13 7:36:52 AM			*108			,,,		Page	1		
Revision ID:	2171 amp		Accept	*N900	<u>040</u>	100)* :	Setup St		JS1* JS2*	*
Start Date: 10. Required Date: 11. Reference:	/30/13 Start Qty: 20.0 /25/13 Req'd Qty: 20.0			Cust Item I Customer:	D:					·	
	rocess Plan: ML5	Date: /3-/0	Tooling: SPC (Y/N):		ate:]		ton	VR1*	
Sequence ID/ Work Center ID	Operation Description		Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Numb		:
Draw Nbr	Revision Nbr					V. 24. 24 1					 :
D2171	Rev D										
100	PURCHASING		0.00				20	٥		Jm13.	11-15
Waterjet FLOW CNC Waterjet 304.063	Dwg Re	s per Dwg v: v:	0.00								
		T if necessary	0.00							.	
110 QC	QC2- Inspect parts o	ff machine FAI/FAIB	0.00				70	_0_		Jm13-	11-15

Memo

Quality Control

DQA:		<u>.</u>	Date:						_					•	
QA Closed:			Date:			WORK ORDER NON-	-C(ONFO	RMANCE / U		Vork O	rder ur	odate only	_	AEROSPACE
						DISPOSITION			<u></u> .	AGAINST D		<u> </u>			
Work Orde	er: _					<u></u>				ــــــ					
						Rework			Skid-tube	Crosstube	_		Water Jet	_	Engineering
Part N	NO					Scrap			Machining	Small Fab			d. Eng. Coor.	4	Quality
N/CD N	No.					Use-as-is		Thern	noforming	Finishing	- K•	ec/Stor	re/Packaging	\dashv	Other
NCR I	N O					Suspected Unapproved			Large Fab	Composite			Supplier		ا لنا
Root					Desci	ription of work order update		Initial	Act	tion	Sig	gn &			
Cause		Date	Step	Qty		or non-conformance	Ch	nief Eng	Desc	ription	D	ate	Verification	1	QC Inspector
Design															
Doc/Data	Ш						ŀ				1				
Equip/Tooling	Ц											-			,
Handling/Pre	Ш														
Material	Щ											ĺ			
Operator	Щ														
Offset/Setup	Ш			•											
Process												1			
Supplier	Щ														
Training	Щ											1			
Transport	Ц													ŀ	
Unapproved															
						·	FAI	ULT CAT	EGORY						
Landi	ng G	ear				General		-							
	Щ	Bending				Bend		Folio/P	rogram		Outsi	de Dim	iensions		Pressure/Forced
	Ľľ	Centre No	t Concer	ntric		BOM/Route		Grain		L	Over,	/Under	tolerance		Set-up
	LJ'	Cracks				Broken/Damage/Defect		Hardwa	re		Part I	Incorred	ct		Temperature/Cure
	Ц°	Crimp/Kin	k/Ripple	/Wave		Burrs		Inspecti	on Incomplete/U	nqualified	Part I	Lost/Mi	issing		Weld
	LJ'	Cuffs				Contamination		Instruct	ions Incomplete/l	Unclear	Part I	Moved		\Box	Wrong Stock Pulled
	Щʻ	Crushing				Countersink		Misalig	ned/off center		Posit	ioned V	Vrong		
		Heat Trea	t			Cut Too Short		Mislabe	led		Powe	er Loss/:	Surge		Other
		nspection	Strip in	Tube		Drawing		Misread	I						
	\bigsqcup	Marks/Ch	atter			Drill Holes		Off-set							
		Turning Se	equence			Finish		Out of 0	Calibration						
		Wave/Tw	ist in Tub	e		Fit/Function		Out of S	equence						

Work Ord October-30-13					Page 2								
Item ID: Revision ID:	D2171			Accept	*1	1900	040	100)*	Setup	Start	*N:	S1*
Item Name:	Clamp										Stop	*N:	S2*
Start Date: Required Date: Reference:	10/30/13 : 11/25/13	Start Qty: 20.00 Req'd Qty: 20.00	*20* *20*			Cust Item I	ID:						
Approvals:	Process P	lan:	Date:	Tooling:		D	ate:	_		Run	Start	*N	R1*
			Date:	_	:	D	ate:				Stop	*N	R2*
Sequence ID/ Work Center I	D	Operation Description		Set Up/ Run Ho	ours 07	Tool ID	Tool #	Plan Code	Accep Qty	t Re Qt		Reject Number	Insp. Stamp
*120 *120* QC Quality Control		QC8- Inspect parts - seco	ond check	0.00	3/11/15				20				
130 *130 Brake NC Brake NC		Form as per dwg Small Fab Memo 1- remove pr	ress and machine marking	0.00 0.00 as necessary			DAS 30 9-89		70		,		/31 w
140 *140* QC: Quality Control		QC5- Inspect part comple	eteness to step on W/O	0.00	DAS 27 9-89 3 11 8				<u> </u>		,		

DQA:			Date:			WORK ORDER NON	~	201501	20440165 / 11	DD 475				TRACE
QA Closed:			Date:			WORK ORDER NON	-C(JNFOI	RIMANCE / U	PDATE	W	ork Order up	odate only	AEROSPACE
Mork Ords	~ <i></i>					DISPOSITION				AGAINST		PARTMENT,		
Work Orde	er:				-	D a a mly	,		C1:14 - 1 - 1	C		1	14/-41-4	
Part N	No.					Rework Scrap		l ,	Skid-tube Machining	Crosstube Small Fab		Pro	Water Jet d. Eng. Coor.	Engineering Quality
1 aiti	' 0. —					Use-as-is			noforming	Finishing	-		e/Packaging	Other
NCR N	No.					Suspected Unapproved		THETH	Large Fab	Composite	_	Nec/3tol	Supplier	- Other
												4		
Root					Desci	ription of work order update	1	Initial		tion		Sign &		
Cause		Date	Step	Qty		or non-conformance	Ch	ief Eng	Desci	ription		Date	Verification	QC Inspector
Design	Ш													
Doc/Data														
Equip/Tooling														
Handling/Pre	Ш													
Material							1							
Operator	Ш													
Offset/Setup	Ш													·
Process	Ш													
Supplier														
Training														
Transport	Ш					. ta								
Unapproved						·,								
				_			FA	ULT CAT	EGORY					
Landi	ng Ge	ar				General		_				_		
	В	ending				Bend		Folio/P	rogram			Outside Dim	ensions	Pressure/Forced
		entre No	t Concen	ntric		BOM/Route		Grain				Over/Under	tolerance	Set-up
	L C	racks				Broken/Damage/Defect		Hardwa	re			Part Incorred	ct -	Temperature/Cure
	Cı	rimp/Kin	k/Ripple,	/Wave		Burrs		Inspecti	on Incomplete/U	nqualified		Part Lost/Mi	ssing	Weld
		uffs				Contamination		Instruct	ions Incomplete/I	Unclear		Part Moved		Wrong Stock Pulled
	c	rushing				Countersink		Misalig	ned/off center			Positioned W	_	
	Шн	eat Trea	t			Cut Too Short		Mislabe				Power Loss/:		Other
	[]In	spection	Strip in	Tube		Drawing		Misread	i			•	- I	
	\square N	larks/Ch	atter			Drill Holes		Off-set						
·	Пт	urning Se	quence			Finish		Out of 0	Calibration					
	\square_{v}	/ave/Twi	st in Tub	e		Fit/Function		-1	Sequence					

W	ork	Order	ID	108944
77	UIR	Oluvi	11	エレひノオオ

Quality Control

108944

Page 3

October-30-13	7:36:52 AM).7144								
Item ID: Revision ID:	D2171		A	Accept	*N9000	740	100)*	Setup			S1*	
Item Name:	Clamp									Stop	*N:	S2*	
Start Date:	10/30/13	Start Qty: 20.00	*20*		Cust Item ID) :							
Required Date:	11/25/13	Req'd Qty: 20.00	*20*		Customer:								
Reference:										. .			
Approvals:	Process Pla	an:	Date:	Tooling:	Dat	te:]		Start	*NI	R1*	
	QC:		Date:	SPC (Y/N):	Dat	te:	•			Stop	*NI	R2*	
Sequence ID/ Work Center II	D	Operation Description		Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reje Qty		Reject Number	Insp. Stamp	
150		Identify as per dwg & Sto	ck Location: 5T456	0.00						AC			
150 Packaging Packaging		Memo		0.00				20>	(<u>2</u>	AS <u>28</u> / 89	13-11-1	18	
										1 .	1	<i>/</i>	
160 *4.00*		QC21- Final Inspection -	Work Order Release	0.00					13)[[209		
1:60 _{QC}		Мето		0.00					_ '	<u>!</u>		\bigcirc	-

DQA:		Date:	·							•		A RT
QA Closed:		Date:	:		WORK ORDER NON-	-C(ONFO	RMANCE / UPD		ork Order up	odate only	AEROSPACE
					DISPOSITION					PARTMENT	•	
Work Orde	er:				, , , , ,	1				1		,
D	.i				Rework			—	Crosstube	-	Water Jet	Engineering
Part !	NO				Scrap		ì	⊸ ⊸	Small Fab	-1	d. Eng. Coor.	Quality
NCR I	No				Use-as-is Suspected Unapproved		mern	noforming C	Finishing Composite	Kec/Stor	re/Packaging	Other
NCN	1 0.				Suspected Ollapproved]		raige ran C	omposite[J	Supplier	
Root				Desci	ription of work order update		Initial	Action		Sign &		
Cause	Da	te Step	Qty		or non-conformance	1	nief Eng	Descripti	ion	Date	Verification	QC Inspector
Design									· · · - · ·			
Doc/Data						l						,
Equip/Tooling						1						,
Handling/Pre												
Material						ŀ						
Operator												
Offset/Setup												
Process												
Supplier			1									
Training												
Transport						l						
Unapproved												
						FA	ULT CAT	regory				
Landi	ng Gear				General		_			_		
	Bendi	ng			Bend		Folio/P	rogram		Outside Dim	ensions	Pressure/Forced
	Centr	e Not Conce	entric	L	BOM/Route		Grain			Over/Under	tolerance	Set-up
	Crack	s			Broken/Damage/Defect	L	Hardwa	re		Part Incorred	et	Temperature/Cure
		/Kink/Rippl	e/Wave		Burrs	L	Inspecti	ion Incomplete/Unqu	alified	Part Lost/Mi	ssing	Weld
	Cuffs				Contamination	L	Instruct	ions Incomplete/Uncl	lear	Part Moved		Wrong Stock Pulled
	Crush	_			Countersink	L	Misalig	ned/off center		Positioned V	/rong	_
	Heat			L	Cut Too Short		Mislabe	eled		Power Loss/	Surge	Other
		ction Strip ir	1 Tube	L	Drawing		Misread	i				
		s/Chatter			Drill Holes		Off-set					
	_	ng Sequence			Finish		Out of 0	Calibration				
	Wave	/Twist in Tu	be		Fit/Function	1	Out of 9	Sequence				

Picklist Print

October-30-13 7:36:56 AM

Work Order ID: 108944

108944

Parent Item:

D2171

D2171

Parent Item Name: Clamp

Start Date: 10/30/13

Required Date: 11/25/13

Page 1

Start Qty: 20.00

Required Qty: 20.00

Comments:

IPP REV:A 11.04.26 now made in house DD verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status	
M304S16GA		Purchased	No			100	sf	399.0840	0.0258	$\overline{\bigcirc}$:	
M304S16	GA								**			Jm	13-11-15	

304/316 Sheet .063

Location	Loc Qty	Loc Code	
MAT020	399.0839998		
123136	140.2		
M126159	31.5		
M126915	227.384		126915

DQA:			Date:											
			_			WORK ORDER NON	-CC	ONFO	RMANCE / UPDATE					AEROSPACE
QA Closed:			Date:							W	ork Order up	odate only		
Work Orde	er:					DISPOSITION			AGAINST	T DE	PARTMENT	/PROCESS		
					- 1	Rework	1		Skid-tube Crosstube	, []	Water Jet		Engineering
Part N	No.					Scrap	1 1		Machining Small Fab		Pro	d. Eng. Coor.		Quality
						Use-as-is	1		noforming Finishing		1	re/Packaging		Other
NCR N	No.					Suspected Unapproved	1		Large Fab Composite	-		Supplier		
Root					Desci	ription of work order update	1	nitial	Action		Sign &			
Cause	D	ate	Step	Qty		or non-conformance	Ch	ief Eng	Description		Date	Verification	n	QC Inspector
Design														
Doc/Data													ļ	
Equip/Tooling														
Handling/Pre														
Material												<u> </u>	ļ	
Operator							1		,					
Offset/Setup	_													
Process							İ							
Supplier	\vdash								,					
Training 														
Transport	\dashv	İ												
Unapproved							FAI	HTCAT	 TEGORY		<u> </u>			
Landii	ng Gear					General	FA	ULI CA	IEGURT					-
Carrain		ding				Bend	Г	Eolio/E	Program		Outside Dim	onsions	_	Pressure/Forced
	\vdash		t Concen	itric		BOM/Route	\vdash	Grain	TOGIATII	-	Over/Under			Set-up
	Cra					Broken/Damage/Defect	\vdash	Hardwa	ire	-	Part Incorred	1		Temperature/Cure
	${f -}$		k/Ripple,	/Wave		Burrs		ł	ion Incomplete/Unqualified	-	Part Lost/Mi			Weld
	Cuff			_		Contamination		1	ions Incomplete/Unclear	\vdash	Part Moved	331116	_	Wrong Stock Pulled
	-	shing		•		Countersink		1	ned/off center		Positioned V	l Vrong	_	,
	_	it Treat				Cut Too Short		Mislabe			Power Loss/	_		Other
	Insp	ection	Strip in	Tube		Drawing		Misread			٠ = = ٥٠,	U - [
	Mai	rks/Cha	atter			Drill Holes		Off-set						
	Turi	ning Se	quence			Finish		1	Calibration					
	Wa	ve/Twi	st in Tub	e		Fit/Function		Out of 9	Sequence					

DART AEROSPACE LTD	Work Order:	108944
Description: Clamp	Part Number:	D2171
Inspection Dwg: D2171 Rev: D		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

X	First Article	Prototyp	е

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Ø0.257	+0.006/-0.001	0.257 0.405 4.969 4.163	-		U	Imoi
0.75	+/-0.030	6.754"	-		U	
0.40	+/-0.030	0.405	_		V	
4.968	+/-0.010	4.969"	_		U	
4.158	+/-0.010	4.163			U	
				_		
				·		
		·				
		_				
			ASر			

			27	 Auto-	
Measured by:	Jm	Audited by:	9-89	Prototype Approval:	N/A
Date:	13-11-15	Date:	3/11/15	Date:	N/A

	Rev	Date	Change	Revised by	Approved
ſ	Α	08.06.16	New Issue	KJ/DD A	
		L		' ' (') -	

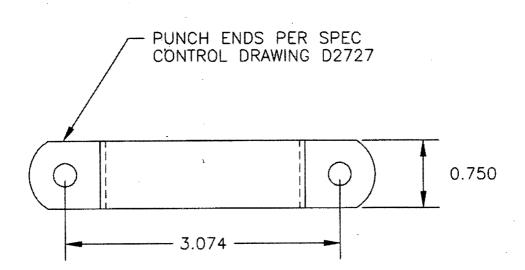
DQA: Date:				- Wark apper van aansammer (いっここ										
QA Closed:	QA Closed: Date:					WORK ORDER NON-CONFORMANCE / UPDATE Work Order update only Work Order update only								
						DISPOSITION AGAINS				AGAINST DE	-			
Work Orde	-					Davis de	i		art a to	<u> </u>	1			
Part N	V.o.					Rework			- —	Crosstube		Water Jet	Engineering	
Parti	NO					Scrap			Machining	Small Fab	•	d. Eng. Coor.	Quality	
NCR	Nο					Use-as-is Suspected Unapproved		inerr	noforming	Finishing	Kec/Stor	re/Packaging	Other	
NCR No.					suspected Unapproved		Large Fab Composite				Supplier			
Root					Desc	ription of work order update		Initial	Action	n	Sign &			
Cause		Date	Step	Qty		or non-conformance	Ch	nief Eng	Descript	tion	Date	Verification	QC Inspector	
Design														
Doc/Data														
Equip/Tooling														
Handling/Pre														
Material		•												
Operator														
Offset/Setup														
Process														
Supplier													1	
Training														
Transport														
Unapproved									-	•				
							FAI	ULT CAT	TEGORY					
Landi	ng G	ear			_	General		_			_		. ,	
	Щ	Bending				Bend		Folio/F	rogram		Outside Dim	ensions	Pressure/Forced	
	Centre Not Concentric					BOM/Route		Grain			Over/Under	tolerance	Set-up	
	Cracks					Broken/Damage/Defect		Hardwa	vare		Part Incorrect		Temperature/Cure	
	Crimp/Kink/Ripple/Wave			Burrs		Inspect	tion Incomplete/Unqualified		Part Lost/Missing		Weld			
	Cuffs				Contamination		Instruct	tions Incomplete/Unc	clear	Part Moved		Wrong Stock Pulled		
	Crushing				Countersink		Misalig	ned/off center		Positioned W	/rong			
	Heat Treat				Cut Too Short	Short		Mislabeled			Surge	Other		
	Inspection Strip in Tube				Drawing		Misread	d		-		,		
	Щ'	Marks/Ch	atter			Drill Holes		Off-set						
	_	Turning Se				Finish		Out of (Calibration					
	١	Wave/Tw	ist in Tub	e		Fit/Function		Out of S	Sequence					

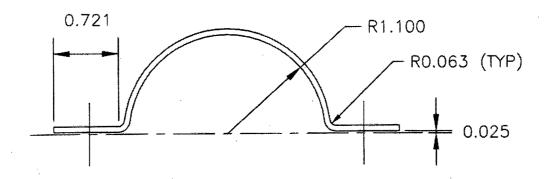




DESIGN		DRAWN BY	DART AEROSPACE LTD	
t.	ŚW	1971	HAWKESBURY, ONTARIO, CANADA	
CHECK	ED / /)	APPROVED	DRAWING NO.	REV. D
	\mathcal{A}'	I RE	D2171 SHEET 1	OF 1
DATE			TITLE	SCALE
99.0	3.08		CLAMP	1:1
В		96.01.29	REDRAWN	
С		97.05.14	RADIUS CHANGED, CUSHION ADDED	
D		99.03.08	REMOVE CUSHION (TSR A890) 4.158 WAS 4,888	







MATERIAL: 304/316 SS 0.063 THICK FLAT LENGTH: 4.968 END-END

4.158 HOLE-HOLE D

DQA:	: Date:		WORK ORDER NON CONFORMANCE (URDATE												
QA Closed:			Date:			WORK ORDER NON-CONFORMANCE / UPDATE Work Order update only Work Order update only									
Work Order:						DISPOSITION			<u> </u>						
Part No						Rework Scrap Use-as-is Suspected Unapproved		Skid-tube Crosstube Machining Small Fab Thermoforming Finishing Large Fab Composite			Water Jet Prod. Eng. Coor. Rec/Store/Packaging Supplier		Engineering Quality Other		
Root					Desc	ription of work order update		Initial	A	ction	Sign &				
Cause		Date	Step	Qty		or non-conformance	Ch	nief Eng	Des	cription	Date	Verification	QC Inspector		
Design Doc/Data Equip/Tooling Handling/Pre Material Operator Offset/Setup Process Supplier Training Transport Unapproved															
							FA	ULT CA	regory						
Landin	_					General		-		· · · · · · · · · · · · · · · · · · ·	- 1				
	Bending Centre Not Concentric Cracks Crimp/Kink/Ripple/Wave Cuffs Crushing Heat Treat Inspection Strip in Tube Marks/Chatter Turning Sequence Wave/Twist in Tube					Bend BOM/Route Broken/Damage/Defect Burrs Contamination Countersink Cut Too Short Drawing Drill Holes Finish Fit/Function		Grain Hardwa Inspect Instruct Misalia Mislaba Misread Off-set	ion Incomplete/licions Incomplete gned/off center eled	/Unclear	Outside Dim Over/Under Part Incorre Part Lost/M Part Moved Positioned V Power Loss/	tolerance ct issing	Pressure/Forced Set-up Temperature/Cure Weld Wrong Stock Pulled Other		

H:/FORMS/Quality Assurance\approved QA/NCRWO RevH